

**TRANSMITTAL LETTER TO THE UNITED STATES  
DESIGNATED/ELECTED OFFICE (DO/EO/US)  
CONCERNING A SUBMISSION UNDER 35 U.S.C. 371**

ATTORNEY'S DOCKET NUMBER

612.45082X00

U.S. APPLICATION NO. (if known, see 37 CFR 1.5)

**107538089**INTERNATIONAL APPLICATION NO.  
PCT/FR2003/003583INTERNATIONAL FILING DATE  
03 December 2003PRIORITY DATE CLAIMED  
10 December 2002TITLE OF INVENTION **METHOD FOR MODELLING HYDRODYNAMIC CHARACTERISTICS OF MULTIPHASE  
FLOWS BY NEURAL NETWORKS**

APPLICANT(S) FOR DO/EO/US

Isabelle REY-FABRET, et al.

Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information:

1.  This is a FIRST submission of items concerning a submission under 35 U.S.C. 371.
2.  This is a SECOND or SUBSEQUENT submission of items concerning a submission under 35 U.S.C. 371.
3.  This is an express request to begin national examination procedures (35 U.S.C. 371(f)). The submission must include items (5), (6), (9) and (21) indicated below.
4.  The US has been elected (Article 31).
5.  A copy of the International Application as filed (35 U.S.C. 371(c)(2))
  - a.  is attached hereto (required only if not communicated by the International Bureau).
  - b.  has been communicated by the International Bureau.
  - c.  is not required, as the application was filed in the United States Receiving Office (RO/US).
6.  An English language translation of the International Application as filed (35 U.S.C. 371(c)(2))
  - a.  is attached hereto.
  - b.  has been previously submitted under 35 U.S.C. 154(d)(4).
7.  Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. 371(c)(3))
  - a.  are attached hereto (required only if not communicated by the International Bureau).
  - b.  have been communicated by the International Bureau.
  - c.  have not been made; however, the time limit for making such amendments has NOT expired.
  - d.  have not been made and will not be made.
8.  An English language translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371(c)(3)).
9.  An oath or declaration of the inventor(s) (35 U.S.C. 371(c)(4)).
10.  An English language translation of the annexes of the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. 371(c)(5)).

**Items 11 to 20 below concern document(s) or information Included:**

11.  An Information Disclosure Statement under 37 CFR 1.97 and 1.98.
12.  An assignment document for recording. A separate cover sheet in compliance with 37 CFR 3.28 and 3.31 is included.
13.  A preliminary amendment.
14.  An Application Data Sheet under 37 CFR 1.76.
15.  A substitute specification.
16.  A power of attorney and/or change of address letter.
17.  A computer-readable form of the sequence listing in accordance with PCT Rule 13/er.2 and 37 CFR 1.821- 1.825.
18.  A second copy of the published International Application under 35 U.S.C. 154(d)(4).
19.  A second copy of the English language translation of the international application under 35 U.S.C. 154(d)(4).
20.  Other items or information: **Figs. 1-2; Request for Examination and Search Form and Credit Card Payment Form**

This collection of information is required by 37 CFR 1.414 and 1.491-1.492. The information is required to obtain or retain a benefit by the public, which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 15 minutes to complete, including gathering information, preparing, and submitting the completed form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Mail Stop PCT, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

U.S. APPLICATION NO. (If known, see 37 CFR 1.5) <b>107538089</b>		INTERNATIONAL APPLICATION NO. PCT/FR2003/003583		ATTORNEY'S DOCKET NUMBER 612.45082X00																																													
<p>21. The following fees are submitted:</p> <table> <tr> <td><input checked="" type="checkbox"/> a) Basic national fee .. \$300.00</td> <td><input type="checkbox"/> b) Examination fee .. \$200.00</td> <td><input type="checkbox"/> c) Search fee .. \$500.00</td> </tr> <tr> <td colspan="3"><b>TOTAL OF ABOVE CALCULATIONS = \$1000.00</b></td> </tr> </table> <p><input type="checkbox"/> Additional fee for specification and drawings filed in paper over 100 sheets (excluding sequence listing or computer program listing filed in an electronic medium). The fee is \$250 for each additional 50 sheets of paper or fraction thereof.</p> <table> <thead> <tr> <th>Total Sheets</th> <th>Extra sheets</th> <th>Number of each additional 50 or fraction thereof (round up to a whole number)</th> <th>RATE</th> </tr> </thead> <tbody> <tr> <td>- 100 =</td> <td>/50 =</td> <td></td> <td>x \$250.00</td> </tr> </tbody> </table> <p>Surcharge of \$130.00 for furnishing the oath or declaration later than 30 months from the earliest claimed priority date (37 CFR 1.492(e)).</p> <table> <thead> <tr> <th>CLAIMS</th> <th>NUMBER FILED</th> <th>NUMBER EXTRA</th> <th>RATE</th> </tr> </thead> <tbody> <tr> <td>Total claims</td> <td>4 - 20 =</td> <td>0</td> <td>x \$50.00</td> </tr> <tr> <td>Independent claims</td> <td>1 - 3 =</td> <td>0</td> <td>x \$200.00</td> </tr> <tr> <td colspan="3"><b>MULTIPLE DEPENDENT CLAIM(S) (if applicable)</b></td> <td>+ \$360.00</td> </tr> <tr> <td colspan="4"><b>TOTAL OF ABOVE CALCULATIONS = \$0.00</b></td> </tr> </tbody> </table> <p><input type="checkbox"/> Applicant claims small entity status. See 37 CFR 1.27. The fees indicated above are reduced by ½.</p> <table> <thead> <tr> <th colspan="2"><b>SUBTOTAL = \$ 1000.00</b></th> </tr> </thead> </table> <p>Processing fee of \$130.00 for furnishing the English translation later than 30 months from the earliest claimed priority date (37 CFR 1.492(f)).</p> <table> <thead> <tr> <th colspan="2"><b>TOTAL NATIONAL FEE = \$ 1000.00</b></th> </tr> </thead> </table> <p>Fee for recording the enclosed assignment (37 CFR 1.21(h)). The assignment must be accompanied by an appropriate cover sheet (37 CFR 3.28, 3.31). \$40.00 per property</p> <table> <thead> <tr> <th colspan="2"><b>TOTAL FEES ENCLOSED = \$ 1040.00</b></th> </tr> </thead> </table> <table> <thead> <tr> <th colspan="2">Amount to be refunded:</th> </tr> </thead> </table> <table> <thead> <tr> <th colspan="2">Amount to be charged:</th> </tr> </thead> </table>						<input checked="" type="checkbox"/> a) Basic national fee .. \$300.00	<input type="checkbox"/> b) Examination fee .. \$200.00	<input type="checkbox"/> c) Search fee .. \$500.00	<b>TOTAL OF ABOVE CALCULATIONS = \$1000.00</b>			Total Sheets	Extra sheets	Number of each additional 50 or fraction thereof (round up to a whole number)	RATE	- 100 =	/50 =		x \$250.00	CLAIMS	NUMBER FILED	NUMBER EXTRA	RATE	Total claims	4 - 20 =	0	x \$50.00	Independent claims	1 - 3 =	0	x \$200.00	<b>MULTIPLE DEPENDENT CLAIM(S) (if applicable)</b>			+ \$360.00	<b>TOTAL OF ABOVE CALCULATIONS = \$0.00</b>				<b>SUBTOTAL = \$ 1000.00</b>		<b>TOTAL NATIONAL FEE = \$ 1000.00</b>		<b>TOTAL FEES ENCLOSED = \$ 1040.00</b>		Amount to be refunded:		Amount to be charged:	
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<p>a. <input type="checkbox"/> A check in the amount of \$ _____ to cover the above fees is enclosed.</p> <p>b. <input type="checkbox"/> Please charge my Deposit Account No. _____ in the amount of \$ _____ to cover the above fees. A duplicate copy of this sheet is enclosed.</p> <p>c. <input checked="" type="checkbox"/> The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account No. <u>01-2135</u>. A duplicate copy of this sheet is enclosed.</p> <p>d. <input checked="" type="checkbox"/> Fees are to be charged to a credit card. <b>WARNING:</b> Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.</p>																																																	
<p><b>NOTE: Where an appropriate time limit under 37 CFR 1.495 has not been met, a petition to revive (37 CFR 1.137(a) or (b)) must be filed and granted to restore the International Application to pending status.</b></p> <p>SEND ALL CORRESPONDENCE TO:</p> <p>Antonelli, Terry, Stout &amp; Kraus, LLP 1300 North Seventeenth Street Suite 1800 Arlington, Virginia 22209</p> <p>Customer No. 020457</p>																																																	
 <p>SIGNATURE Alan E. Schiavelli</p> <p>NAME _____ 32,087 REGISTRATION NUMBER</p>																																																	

10/538089  
JC12 Rec'd PCT/PTC 08 JUN 2005

ATTACHMENT

International Application No. PCT/FR2003/003583	International Filing Date 03 December 2003	Attorney Docket No. 612.45082X00
----------------------------------------------------	-----------------------------------------------	-------------------------------------

1. International Publication No. WO 2004/063983 A2- Full Copy
2. Notification of Receipt of Record Copy
3. Notification Concerning Submission or Transmittal of Priority Document
4. Notice Informing the Application of the Communication of the International Application to the Designated Offices
5. International Search Report

10/538089  
JC12 Rec'd PCT/PTC 08 JUN 2005  
612.45082X00

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: Isabelle REY-FABRET, et al.

Application No.: Not Yet Assigned

Filed: June 8, 2005

For: METHOD FOR MODELLING HYDRODYNAMIC  
CHARACTERISTICS OF MULTIPHASE FLOWS  
BY NEURAL NETWORKS

**REQUEST FOR EXAMINATION AND SEARCH**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

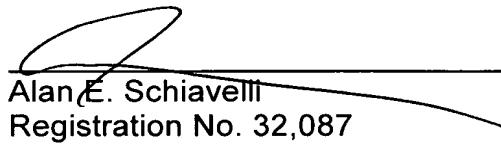
June 8, 2005

Sir:

Applicants respectfully request that a search and examination be conducted in the above-identified application. The necessary search fee and examination fee are enclosed herewith.

Please charge any shortage in the fees due in connection with the filing of this paper, including excess claim fees, to Deposit Account No. 01-2135 (referencing case No. 612.45082X00), and please credit any excess fees to such deposit account.

Respectfully submitted,

  
Alan E. Schiavelli  
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